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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,948	08/18/2005	Daniel Matter	1-16941	3506

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EXAMINER	
JAGAN, MIRELLYS	
ART UNIT	PAPER NUMBER
2859	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/524,948	MATTER ET AL.	
	Examiner	Art Unit	
	Mirellys Jagan	2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 February 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,11 and 13* is/are rejected.

7)☒ Claim(s) *3-10,12,14 and 15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 February 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the foreign references have been cited by the examiner on form PTO-892, they have not been considered.

Furthermore, the listing of references in the Search Report is not considered to be an information disclosure statement (IDS) complying with 37 CFR 1.98. 37 CFR 1.98(a)(2) requires a legible copy of: (1) each foreign patent; (2) each publication or that portion which caused it to be listed; (3) for each cited pending U.S. application, the application specification including claims, and any drawing of the application, or that portion of the application which caused it to be listed including any claims directed to that portion, unless the cited pending U.S. application is stored in the Image File Wrapper (IFW) system; and (4) all other information, or that portion which caused it to be listed. In addition, each IDS must include a list of all patents, publications, applications, or other information submitted for consideration by the Office (see 37 CFR 1.98(a)(1) and (b)), and MPEP § 609.04(a), subsection I. states, "the list ... must be submitted on a separate paper." Therefore, unless the foreign references have been cited by the examiner on form PTO-892, the foreign references cited in the Search Report have not been considered. Applicant is advised that the date of submission of any item of information or any

missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the IDS, including all "statement" requirements of 37 CFR 1.97(e). See MPEP § 609.05(a).

Claim Objections

2. Claims 1-15 are objected to because of the following informalities:

In claims 1 and 12, the preamble of the claims are not clear as to what the methods are for, i.e., are they a method for measuring gas consumption by means of a gas meter, or a method of measuring a meterable gas energy supply? Furthermore, the body of the claims do not clearly set forth any steps for performing either of these actions, i.e., for measuring gas consumption by means of a gas meter, or for measuring a meterable gas energy supply. Lastly, referring to claim 1, the claim does not clearly set forth if the flow rate is referring to a flow rate of the gas.

In claim 3, it is not clear if the thermal flow sensor and the gas quality sensor each have a first temperature sensor, a heater, and a second temperature sensor. Furthermore, if each of the thermal flow sensor and the gas quality sensor have a first temperature sensor, a heater, and a second temperature sensor, it is not clear which one or two of the temperature sensor signals is being used to determine the claimed difference or sum.

In claim 4, it is not clear which of the claimed elements of base claim 1 is being used to measure the claimed heat conductivity.

In claim 7, there is lack of antecedent basis in the claim for the method 'switching' to and from energy units and mass or volume units.

In claim 8, it is not clear what is meant by the phase "and in particular output: in line 5.

In claim 9, it is not clear what is meant by 'or air' and 'or natural gas' in lines 11-12.

In claim 10, there is lack of antecedent basis in the claim for 'the obtained product', i.e., there is lack of antecedent basis in the claim for obtaining a product.

In claim 13, there is lack of antecedent basis in the claim for "the thermal flow meter" in line 3.

Claims 2, 5, 6, 11, 14, and 15 are objected to for being dependent on an objected base claim. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "and/or" in claim 13 is a relative term which renders the claim indefinite because it is not clear how the thermal flow meter and the quality sensor can have identical construction 'and' both not be a CMOS anemometer, as stated by the 'or' in lines 5-6.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 4,345,463 to Wilson et al [hereinafter Wilson].

Wilson discloses a method for measuring gas consumption by means of a gas meter, wherein sensor signals that are proportional to a flow rate of the gas are determined by the gas meter by means of a thermal flow sensor (16), and the sensor signals are output as energy value signals (308) based on a calibration of the gas meter as an energy meter, wherein:

a gas type is determined by the gas meter insofar as a non-combustible gas mixture is differentiated from a combustible gas mixture (see column 3, lines 50-53); and

the gas meter is operated with a calibration in mass or standard volume units (304) in the presence of a non-combustible gas mixture, and the gas meter is operated with a calibration in energy units (308) in the presence of a combustible gas mixture, i.e., the gas meter will not output in energy units if there is a non-combustible mixture since this mixture will not have measurable energy to output;

wherein at least one gas type-dependent parameter of the gas mixture is determined by means of a thermal gas quality sensor, and the gas mixture is identified as combustible or non-combustible by comparison with known values of the parameter for known gases (see column 2, lines 49-64) (see abstract; figure 3; column 1, lines 58-62; column 2, lines 16-21 and 27-41; and column 6, lines 15-24 and 53-57).

Allowable Subject Matter

7. Claims 3-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and amended to overcome the objections set forth in this Office action.

8. Claims 12, 14, and 15 would be allowable if rewritten or amended to overcome the objections set forth in this Office action.

9. Claim 13 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, and the objections set forth in this Office action.

10. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record does not disclose or suggest the following in combination with the remaining limitations of the claims:

A method for measuring gas consumption by means of a gas meter, wherein:

the thermal flow sensor and the gas quality sensor have an identical sensor construction, the gas mixture being guided over a first temperature sensor, a heating element , and a second temperature sensor; and from a difference of temperature signals of the temperature sensors a mass flow signal is determined and, from a sum of the temperature signals or from the temperature signal of the first temperature sensor alone, a gas type-dependent heat coefficient is determined (see claim 3);

a measured heat conductivity is tested for correspondence to a heat conductivity value corresponding to an absolute value of 0.026 W/mK for nitrogen, oxygen or air, in particular 0.0260 W/mK for nitrogen, 0.0263 W/mK for oxygen or 0.0261 W/mK for air, or 0.0168 W/mK for carbon dioxide (see claim 4);

a measured heat capacity is compared with a threshold value corresponding to an absolute value of 1300 J/kgK (see claim 5);

measuring intervals for determining sensor signals are chosen to be large in the presence of a non-combustible gas mixture, and are chosen to be small in the presence of a combustible gas mixture (see claim 6);

a consumed supply of gas energy is stored intermediately when switching the calibration to mass or standard volume units, and is used as start value when switching back to energy units (see claim 7);

the flow rate is further incremented when switching the calibration to energy units, or the integrated flow rate is stored intermediately and in particular output and is used as a start value or is set back to zero as start value when switching back to mass or standard volume units (see claim 8);

by means of a first initialization of the gas meter the calibration is switched automatically from mass or standard volume units to energy units, or a manipulation indicator of the gas meter is activated upon contact with air, natural gas and again air (see claim 9); or

the sensor calibration curve is corrected with a signal conversion factor and with a heat value factor for a basic gas mixture (see claim 10).

A gas meter for measuring a gas consumption, wherein the gas meter can be switched over between an operation as energy meter or as mass flow meter based on the discrimination signal (see claim 12).

Conclusion

11. The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

The following references disclose measuring mass/volumetric flow rate and energy flow rate of a gas:

U.S. Patent 4,396,299 to Clingman, Jr. et al
U.S. Patent 5,226,728 to Vander Heyden
U.S. Patent Re. 35,639 to Vander Heyden et al
U.S. Patent 6,244,097 to Schley et al
U.S. Patent 4,306,293 to Marathe
U.S. Patent 5,026,171 to Feller
U.S. Patent 6,517,237 to Hammond et al
U.S. Patent 5,882,115 to Vander Heyden et al
U.S. Patent Application Publication 2006/0212249 to Matter et al
U.S. Patent 5,551,282 to Vander Heyden
U.S. Patent 6,612,186 to Patten et al
U.S. Patent 6,963,809 to Matter et al
U.S. Patent 6,850,847 to Morrow et al
U.S. Patent 6,386,014 to Butch
JP 11118569 to Yazaki

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mirellys Jagan whose telephone number is 571-272-2247. The examiner can normally be reached on Monday-Friday from 11AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJ
December 27, 2006

GAIL VERBITSKY
PRIMARY EXAMINER